IN THE CLAIMS:

1. (Currently amended) A method for megasonic cleaning a substrate, comprising the steps of:

a) providing a container having ~~side walls~~ sidewalls on all sides of said container, wherein at least two of said sidewalls have ~~said container having~~ an overflow ~~on at least two sides~~, said container having ~~an an~~ a container inlet for flowing fluid into said container, said container inlet located below said overflows;

b) providing at least one from the group including a first megasonic transducer with a first active surface and a first array of megasonic transducers with a first array active surface for providing vibrational energy in said container;

c) disposing a substrate in said container within said sidewalls, below said overflow, and substantially parallel to and spaced a first spacing from at least one from the group including said first active surface and said first array active surface;

d) immersing the substrate in said fluid, flowing said fluid upwardly in said container from said container inlet, through said first spacing, and over said overflows;

~~c) immersing the substrate in said fluid in said container, wherein said fluid flows over said overflow;~~ and

f e) applying energy to at least one from the group including said first megasonic transducer and said first array of megasonic transducers to provide vibration in said fluid and to clean the substrate wherein

substantially all vibration provided in said fluid is from at least one from the group including said first megasonic transducer, said first array of megasonic transducers, a transducer arranged parallel to said first active surface, and a transducer arranged parallel to said first array active surface.

2. (Currently amended) A method as recited in claim 1, further comprising ~~the step of~~ providing relative motion between said substrate and said transducer ~~in a direction substantially parallel to the substrate,~~ while performing said fluid-flowing and energy-applying ~~steps (d) and (f)~~.

3. (previously presented) A method as recited in claim 1, wherein said substrate has a substrate surface area and at least one from the group including said first active surface and said first array active surface has an area at least equal to 40% of the substrate surface area.

4. (previously presented) A method as recited in claim 1, wherein the substrate has a maximum diameter and said first spacing is in a range from 1% to 80% of said maximum diameter.

5. (previously presented) A method as recited in claim 1, wherein said first spacing is in a range from 1 micrometer to 160 millimeters.

6. (previously presented) A method as recited in claim 1, wherein said megasonic energy applied to at least one from the group including said first megasonic transducer and said first array of megasonic transducers has a frequency of at least 400 kilohertz.

7. (previously presented) A method as recited in claim 1, wherein said megasonic energy applied to at least one from the group including said first megasonic transducer and said first array of megasonic transducers has a maximum power of at least 400 watts.

8. (previously presented) A method as recited in claim 7, wherein said megasonic energy is applied to at least one from the group including said first megasonic transducer and said first array of megasonic transducers with 20% to 100% of said maximum power.

9. (previously presented) A method as recited in claim 1, wherein said first megasonic transducer has an area and a total input power and wherein said input power divided by said area is at least four watts per square centimeter.

10. (Currently amended) A method as recited in claim 1, wherein said flowing a said fluid ~~step (d)~~ upwardly in said container comprises flowing a said fluid through said first spacing at a fluid flow rate sufficient to carry particles away from the substrate before they redeposit on the substrate.

11. (Currently amended) A method as recited in claim 1, wherein said container has a volume and wherein said flowing a said fluid ~~step (d)~~ comprises flowing a said fluid through said first spacing at a rate to replace ~~the~~ said fluid in said volume in less than or equal to one minute.

12. (previously presented) A method as recited in claim 1, further comprising ~~the step of~~ providing at least one from the group including a second megasonic transducer with a second active surface and a second array of megasonic transducers with a second array active surface in said tank, wherein at least one from the group including said second active surface and said second array active surface faces at least one from the group including said first active surface and said first array active surface, and is substantially parallel to and spaced a second spacing from at least one from the group including said first active surface and said first array active surface.

13. (Currently amended) A method as recited in claim 12, ~~wherein in said providing step (b)~~ further comprising completely immersing in said fluid at least one from the group including said first megasonic transducer and said first array of megasonic transducers and at least one from the group including said second megasonic transducer and said second array of megasonic transducers ~~are both completely immersed in said fluid~~.

14. (Currently amended) A method as recited in claim 12, ~~wherein said disposing step (c) comprises~~ further comprising disposing the substrate in ~~the tank~~ said container between at least one from the group including said first active surface and said first array active surface and at least one from the group including said second active surface and said second array active surface.

15. (Currently amended) A method as recited in claim 14, ~~wherein said flowing step (d)~~ further ~~comprises~~ comprising flowing ~~the~~ said fluid through said second spacing.

16. (Currently amended) A method as recited in claim 15, ~~wherein said applying energy step (f)~~ further ~~comprises~~ comprising applying energy to said second megasonic transducer.

17. (Currently amended) A method as recited in claim 12, wherein said ~~transducers~~ first megasonic transducer and said second megasonic transducer provide energy to clean both sides and edges of the substrate.

18. (previously presented) A method as recited in claim 1, wherein said fluid comprises one of deonized water, dilute RCA cleaning solution and dilute citric acid solution.

19. (Canceled)

20. (Canceled)

21. (Canceled)

22. (Currently amended) A method as recited in claim 1, ~~wherein in said providing step (b)~~ further comprising ~~said first transducer is~~ completely ~~immersed~~ immersing said first transducer in said fluid.

23. (currently amended) A method for megasonic cleaning a single substrate, comprising the steps of:

a) providing a container comprising at least one from the group including a first megasonic transducer with a first active surface arranged in a horizontal plane and a first array of megasonic transducers with a first array active surface arranged in a horizontal plane, wherein at least one from the group including said first magasonic transducer and said first array of megasonic transducers is held in a fixed position, and wherein said container has ~~side walls~~ sidewalls on all sides, wherein at least two of said sidewalls have ~~said container having~~ an overflow ~~on at least two sides~~, said container having ~~an an~~ a container inlet for flowing fluid into said container, said container inlet located below said overflows;

b) disposing a single substrate in said container within said sidewalls, below said overflow, and substantially parallel to and spaced a spacing from said first active surface or said first array active surface;

c) immersing the single substrate in a fluid and flowing said fluid upwardly in said container from said container inlet, through said spacing, and ~~wherein said fluid flows~~ over said ~~overflow~~ overflows; and

d) applying energy to said first megasonic transducer wherein substantially all vibration provided in said fluid is from at least one from the group including said first megasonic transducer, said first array of megasonic transducers, a transducer arranged parallel to said first active surface and a transducer arranged parallel to said first array active surface.

24-58. (Canceled)

59. (Currently Amended) A method for megasonic cleaning a single substrate, comprising the steps of:

(a) providing a container having ~~side walls~~ sidewalls on all sides of said container, wherein at least two of said sidewalls have ~~said container having~~ an overflow ~~on at least two sides~~, said container having ~~an an~~ a container inlet for flowing fluid into said container, said container inlet located below said overflows;

(b) providing a first megasonic transducer with at least one from the group including a first active surface and a first array of megasonic transducers with a first array active surface, wherein at least one from the group including said first active surface and said first array active surface is arranged in a horizontal plane to provide megasonic vibration in said container;

(c) disposing a single substrate in said container within said sidewalls, below said overflow, facing, substantially parallel to, and spaced a first spacing from at least one from the group including said first active surface and said first array active surface, wherein said single substrate is within said sidewalls and below said ~~top edge~~ overflows;

(d) providing a fluid in said container, immersing said single substrate in said fluid, and flowing said fluid upwardly in said container from said container inlet, through said first spacing, and ~~wherein said fluid flows~~ over said ~~overflow~~ overflows; and

(e) applying energy to said first megasonic transducer, wherein

substantially all vibration provided in said fluid is from at least one from the group including said first megasonic transducer, said first array of megasonic transducers, a transducer arranged parallel to said first active surface and a transducer arranged parallel to said first array active surface.

60. (previously presented) A method as recited in claim 59, wherein said single substrate has a substrate surface area and said first active surface or said first array active surface has an area at least equal to 40% of the substrate surface area.

61. (previously presented) A method as recited in claim 59, wherein said single substrate has a substrate surface and said first megasonic transducer or said first array of megasonic transducers is larger than said substrate surface.

62. (previously presented) A method as recited in claim 59, wherein the single substrate has a maximum diameter and said first spacing is in a range from 1% to 80% of said maximum diameter.

63. (previously presented) A method as recited in claim 59, wherein said first spacing is in a range from 1 micrometer to 160 millimeters.

64. (previously presented) A method as recited in claim 59, wherein said megasonic energy applied to said first megasonic transducer or said first array of megasonic transducers has a frequency of at least 400 kilohertz.

65. (previously presented) A method as recited in claim 59, wherein said megasonic energy applied to said first megasonic transducer or said first array of megasonic transducers has a maximum power of at least 400 watts.

66. (previously presented) A method as recited in claim 65, wherein said megasonic energy is applied to at least one from the group including said first megasonic transducer and said first array of megasonic transducers with 20% to 100% of said maximum power.

67. (previously presented) A method as recited in claim 59, wherein said first megasonic transducer has an area and a total input power and wherein said input power divided by said transducer area is at least four watts per square centimeter.

68. (Currently amended) A method as recited in claim 59, wherein said flowing ~~a~~ said fluid ~~step (d)~~ comprises flowing ~~a~~ said fluid through said ~~space between the single substrate and said transducer~~ first spacing at a fluid flow rate sufficient to carry particles away from the single substrate before they redeposit on the single substrate.

69. (Currently amended) A method as recited in claim 59, wherein said container has a volume and wherein said flowing a fluid ~~step (d)~~ comprises flowing a fluid through said space between the single substrate and said transducer ~~first spacing~~ at a rate to replace the fluid in said volume in less than or equal to one minute.

70. (Currently amended) A method as recited in claim 59, further comprising ~~the step of~~ providing at least one from the group including a second megasonic transducer with a second active surface and a second array of megasonic transducers with a second array active surface in said tank, wherein at least one from the group including said second active surface and said second array active surface faces at least one from the group including said first active surface and said first array active surface, and is substantially parallel to and spaced a second spacing from at least one from the group including said first active surface and said first array active surface.

71. (Currently amended) A method as recited in claim 70, wherein ~~in said providing step (b)~~ further comprising completely immersing in said fluid at least one from the group including said first megasonic transducer and said first array of megasonic transducers and at least one from the group including said second megasonic transducer and said second array of megasonic transducers ~~are both completely immersed in said fluid~~.

72. (Currently amended) A method as recited in claim 70, ~~wherein said disposing step (c) comprises~~ further comprising disposing the single substrate in ~~the tank~~ said container between at least one from the group including said first active surface and said first array active surface and at least one from the group including said second active surface and said second array active surface.

73. (Currently amended) A method as recited in claim 72, ~~wherein said flowing step (d)~~ further ~~comprises~~ comprising flowing ~~the~~ said fluid through said second spacing.

74. (Currently amended) A method as recited in claim 73, ~~wherein said applying energy step (f)~~ further ~~comprises~~ comprising applying energy to said second megasonic transducer.

75. (previously presented) A method as recited in claim 70, wherein said first megasonic transducer and said second megasonic transducer provide energy to clean both sides and edges of the single substrate.

76. (previously presented) A method as recited in claim 59, wherein said fluid comprises one of deonized water, dilute RCA cleaning solution and dilute citric acid solution.

77. (previously presented) A method as recited in claim 1, wherein at least one from the group including said first megasonic transducer and said first array of megasonic transducers is larger than said substrate.

78. (previously presented) A method as recited in claim 23, wherein said first megasonic transducer is larger than said single substrate.

79. Cancel

80. (Currently amended) The method as recited in claim 1, wherein ~~in said providing step (b)~~ at least one from the group including said first active surface and said first array active surface is arranged in a horizontal plane.

81. (Withdrawn) The method as recited in claim 1, wherein ~~in said providing step (b)~~ at least one from the group including said first active surface and said first array active surface is arranged in a vertical plane.

82.-98 cancel

99. (New) A method as recited in claim 2, wherein said providing relative motion between said substrate and said transducer is in a direction substantially parallel to the substrate.